CLAIMS

1. An optically variable element, in particular an optically variable safeguard element for safeguarding banknotes, credit cards and the like, wherein the optically variable element has a thin film layer succession (14, 15a, 15b, 16) with at least one spacer layer (15a, 15b) for producing color shifts by means of interference,

characterised in that

in a first region (19a, 19b) of the thin film layer succession the spacer layer (15a, 15b) is of a different layer thickness from in a second region (19c, 19d) of the thin film layer succession, wherein the layer thicknesses of the spacer layer (15a, 15b) in the first and second regions are so selected that in the first region (19a, 19b) of the thin film layer succession a first color shift is produced by means of interference and in the second region (19c, 19d) of the thin film layer succession a second color shift which is different from the first color shift is produced.

2. An optically variable element as set forth in claim 1 characterised in that the optically variable element has a diffractive structure (17), in particular for producing diffraction effects.

3. An optically variable element as set forth in claim 2 characterised in that the diffractive structure (17) covers the first and second regions (19b, 19c) of the thin film layer succession.

4. An optically variable element as set forth in claim 1 characterised in that the spacer layer (15a, 15b) in the first region (19c, 19d) comprises two or more mutually superposed partial layers (15a, 15b) which jointly form the spacer layer in that region and that the spacer layer in the second region (19a, 19b) of the thin film layer succession has only one of the two or more partial layers (15a), which forms the spacer layer in that region of the thin film layer succession.

5. An optically variable element as set forth in claim 4 characterised in that the two or more mutually superposed partial layers (15a, 15b) are formed as different patterns.

6. An optically variable element as set forth in claim 4 characterised in that at least one of the partial layers is in the form of a random pattern.

7. An optically variable element as set forth in claim 4 characterised in that the two or more mutually superposed partial layers (15a, 15b) are applied one over the other by means of masks of different shapes.

8. An optically variable element as set forth in claim 4 characterised in that the two or more mutually superposed partial layers (15a, 15b) are applied by means of a printing process, wherein a partial layer (15a) applied in a first printing process is over-printed in a second printing process.

9. An optically variable element as set forth in claim 1 characterised in that the layer thickness of the spacer layer (75) changes continuously and/or non-continuously between the first and second regions of the thin film layer succession so that in said region of the thin film layer succession the color shift produced by the thin film layer succession changes continuously or non-continuously respectively.

10. An optically variable element as set forth in claim 1 characterised in that the spacer layer is delimited on the one hand by an absorption layer applied to a macro-structured replication layer and on the other hand by a substantially planar layer so that the layer thickness of the spacer layer is determined by the macro-structured replication layer.

11. An optically variable element as set forth in claim 1 characterised in that the spacer layer is macro-structured and is delimited on the one

hand by an applied absorption layer and on the other hand by a reflection layer.

12. An optically variable element as set forth in claim 11 characterised in that the macro-structured spacer layer is produced by means of a surface-structured printing roller.

13. An optically variable element as set forth in claim 1 characterised in that the spacer layer is colored.

14. An optically variable element as set forth in claim 1 characterised in that the thin film layer succession has an absorption layer (14).

15. An optically variable element as set forth in claim 1 characterised in that the thin film layer succession has an absorption layer which acts as an absorption layer and as a replication layer.

16. An optically variable element as set forth in claim 1 characterised in that the thin film layer succession has an absorption layer and a replication layer, the absorption layer and the replication layer being formed from the same material.

17. An optically variable element as set forth in claim 1 characterised in that the thin film layer succession has a plurality of layers of differing refraction.

18. An optically variable element as set forth in claim 1 characterised in that the layer thickness of the spacer layer in the second region is so selected that the coherence condition is not fulfilled in the second region.

19. An optically variable element as set forth in claim 1 characterised in that the thin film layer succession has a reflecting layer (16), preferably a metal layer.

20. An optically variable element as set forth in claim 1 characterised in that the reflecting layer (16) only partially covers the surface region of the thin film layer.

21. An optically variable element as set forth in claim 1 characterised in that the optically variable element has a continuous transparent layer (12, 13), in particular a protective lacquer layer.

22. A security product having an optically variable element as set forth in one of the preceding claims.

23. A foil, in particular an embossing foil or a laminating foil, having an optically variable element as set forth in one of claims 1 through 21.

24. A process for producing an optically variable element, in particular an optically variable safeguard element for safeguarding banknotes, credit cards and the like, wherein applied to a substrate is a thin film layer succession with at least one spacer layer (15a, 15b) for producing color shifts by means of interference,

characterised in that

in a first region (19c, 19d) of the thin film layer succession the spacer layer (15a, 15b) is shaped in a different layer thickness from in a second region (19a, 19b) of the thin film layer succession, wherein the layer thicknesses of the spacer layer in the first and second regions (19a through 19d) are so selected that in the first region (19c, 19d) of the thin film layer succession a first color shift is produced by means of interference and in the second region (19a, 19b) of the thin film layer succession a second color shift which is different from the first color shift is produced.

25. A process as set forth in claim 24 characterised in that two or more partial layers (15a, 15b) are applied in mutually superposed relationship to produce the spacer layer, wherein in the first region (19c,

19d) of the thin film layer succession the spacer layer is formed by two or more of the partial layers (15a, 15b) and thus the layer thicknesses of the partial layers are added and in the second region (19a, 19b) of the thin film layer succession the spacer layer is formed by only one of the partial layers (15a).

26. A process as set forth in claim 24 characterised in that one or more of the partial layers is applied by vapor deposition.

27. A process as set forth in claim 24 characterised in that two or more of the partial layers are applied by vapor deposition using vapor deposition masks of differing forms.

28. A process as set forth in claim 24 characterised in that one or more of the partial layers is applied by a printing process.

29. A process as set forth in claim 24 characterised in that a spacer layer is printed on the substrate by means of a multiple roller assembly, the thickness of the spacer layer changing randomly.

30. A process as set forth in claim 24 characterised in that different patterns are printed on to the substrate in register relationship with differing layer thicknesses.